

Date: Friday, 10/5/2007 11:01:47 AM  
User: Kim Johnston

# Process Sheet

44

Customer	: CU-DAR001 Dart Helicopters Services	Drawing Name	: 206L AFT X-TUBE
Job Number	: 35043		
Estimate Number	: 10973		
P.O. Number	: <u>N/A</u>	Part Number	: D206667203
This Issue	: 10/5/2007	Drawing Number	: D206-667-243 REV B
Prsht Rev.	: NC	Project Number	: N/A
First Issue	: <u>N/A</u>	Drawing Revision	: B
Previous Run	: 35042	Material	: <u>N/A</u>
		Due Date	: 10/30/2007
Written By	: <u>[Signature]</u>	Qty:	1 Um: Each
Checked & Approved By	: <u>[Signature]</u>		
Comment	: Est Rev: F 05.09.01 Add holes for compatibility with Bell Skid tubes KJ/JLM		

## Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
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1.0	DC	DOCUMENT CONTROL
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KS 07/10/07

Comment: DOCUMENT CONTROL

Photocopy bluefile and create labels as per PPP D206-667-203 CHG002

[Signature]

2.0	D6004115	Crosstube material
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Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Pick:

Qty	Part number	Description	Batch
-----	-------------	-------------	-------

1	D6004-115	Crosstube	<u>B32305</u>
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Check OD = 2.500"; ID = 1.800"

[Signature] 07/10/18

3.0	MORI SEIKI	MORI SEIKI CNC LATHE LARGE
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Comment: MORI SEIKI CNC LATHE LARGE

1-Fill tube with sand & install plugs DT8534 on both ends as per Folio FA089

2-Turn first side as per Folio FA089

3-Deburr & Inspect for surface damage. Repair damage within limits as per Dwg D206-667-243.

[Signature] 07/10/21

4.0	QC1	INSPECT ALL DIM TO DIM SHEET
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Comment: INSPECT ALL DIM TO DIM SHEET

[Signature] 07/10/21

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Friday, 10/5/2007 11:01:47 AM  
User: Kim Johnston

## Process Sheet

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Drawing Name: 206L AFT X-TUBE

Job Number: 35043

Part Number: D206667203

Job Number:



Seq. #:

Machine Or Operation:

Description :

5.0

MORI SEIKI

MORI SEIKI CNC LATHE LARGE



Comment: MORI SEIKI CNC LATHE LARGE

1-Turn second side as per Folio FA089

2-Deburr & Inspect for surface damage. Repair damage within limits as per Dwg D206-667-243.

3-Remove sand and plugs

4-Scribe part # and batch # using vibrating stylus as per Dwg D206-667-243

Inside of Cuff(Donot engrave on outside of tube)

*mk 07/10/21*

*10*

6.0

QC1

INSPECT ALL DIM TO DIM SHEET



Comment: INSPECT ALL DIM TO DIM SHEET

*mk 07/10/21*

*10*

7.0

QC8

SECOND CHECK



Comment: SECOND CHECK

*J-F 07/10/21*

*10*

8.0

LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

*AWM 07-11-05*

*JD 7-10-23*

1-Polish entire outside surface of crosstube

9.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

*mk 7/10/23*

10.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Chemical Conversion Coat as per QSI 005 4.1

*JD 7-10-23*

11.0

BENDING

BENDING MACHINE



Comment: BENDING MACHINE

Bend tube as per Dwg D206-667-243 using CNC bender program 206L-AF and Folio FT

*EL 7-10-25*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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## Process Sheet

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Drawing Name: 206L AFT X-TUBE

Job Number: 35043

Part Number: D206667203

Job Number:



Seq. #:

Machine Or Operation:

Description:

12.0

QC15

DIMENSIONAL CHECK OF X-TUBES



Comment: DIMENSIONAL CHECK OF X-TUBES

*Handwritten: 10-26-07*

13.0

LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Drill pilot holes in tube using drill Jig DT8583 & DT8584 as per Dwg D206-667-243. Drill all (3) top holes.

2-Drill and Ream all holes in tube to finish size using drill Jig DT8583 & DT8584 as per Dwg D206-667-243  
Check dimensions between holes on all four sides.

3-Flip tube and switch drilling Jigs from right to left, left to right. Locate Jigs off existing holes using "T" pins.

4-Drill pilot holes using drill Jig DT8583 & DT8584 as per Dwg D206-667-243. Drill only the top (2) holes.

5-Drill & ream the top (2) holes to finish size using drill Jig DT8583 & DT8584 as per Dwg D206-667-243

6-Drill Fwd rivet holes using drill Jig DT8789FWD as per Dwg D206-667-143. Note: Fwd side has 3x top holes.

7-Drill Aft rivet holes using drill Jig DT8789 as per Dwg D206-667-243.

8-C'sink holes as per Dwg D206-667-243.

9-Deburr & Inspect for surface damage. Repair damage within limits as per Dwg D206-667-243

*Handwritten: SR 7-10-27*

14.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Chemical Conversion Coat as per QSI 005 4.1

*Handwritten: AWM 07-10-29*

15.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

*Handwritten: 07/11/07*

16.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

*Handwritten: 07/11/07*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

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## Process Sheet

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Drawing Name: 206L AFT X-TUBE

Job Number: 35043

Part Number: D206667203

Job Number:



Seq. #:

Machine Or Operation:

Description:

17.0

OUTSIDE SERV.10

OUTSIDE SERVICES -LG



Comment: Sub-Contracting OUTSIDE SERVICES

Liquid Penetrant Inspection as per QSI 0380r

Issue P/O: ~~4873~~ 5068

LPI as per ASTM 1417

Level 2 Attach copy of NDT results to work order

C207111119 ①

18.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Inspect for transit damage

Ensure copy of NDT results attached to work order.

C2071111054 ① PTO

19.0

QC6

DIMENSIONAL CHECK



Comment: Inspect for damage & ensure results are as per Dwg D206-667-103

8/27/10

20.0

SPRAY PAINTING

SPRAY PAINTING



Comment: SPRAY PAINTING

1-Mask Threaded holes

2-Prime inside and outside crosstube as per QSI 005 4.2

3-Paint outside crosstube with White Imron as per QSI 005 4.2

> ml 07 11 19 ①

21.0

QC14

INSPECT SPRAY PAINT



Comment: Inspect Spray Paint

Wrap in plastic bag to protect from scratches

7/11/20 ①

22.0

D2873045

Nut Plate Assembly



Comment: Qty.: 2.0000 Each(s)/Unit Total: 2.0000 Each(s)

Pick:

Qty Part number

Description Batch

2 D2873-045

Nut Plate

34077

ml 07 11 18

# Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes ☒ No ☐ DQA: DD Date: 07/11/23  
 QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
07-11-19	17.0	Tube had visible linear markings on the tube,  R.C.S. Hammer, insufficient finish on the tube.	 07/11/23	re-polish to remove linear marks.	J.D. 07-11-01	 07-11-19	 07/11/23	 07-11-19

NOTE: Date & initial all entries



Date: Friday, 10/5/2007 11:01:47 AM  
User: Kim Johnston

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 206L AFT X-TUBE

Job Number: 35043

Part Number: D206667203

Job Number:



Seq. #:

Machine Or Operation:

Description:

23.0

D2873043

Nut Plate Assembly



Comment: Qty.: 2.0000 Each(s)/Unit Total: 2.0000 Each(s)

Pick:

Qty Part number Description Batch

2 D2873-043

Nut Plate

33422

ml 07 11 19

24.0

MS20601AD4W10

RIVET



Comment: Qty.: 14.0000 Each(s)/Unit Total: 14.0000 Each(s)

Pick:

Qty Part number Description Batch

14 MS20601AD4W10 Rivet

M104885

ml 07 11 19

25.0

LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Install nut plates as per Dwg D206-667-243.

ml 07 11 19

26.0

D2856400

Abrasion Strip



Comment: Qty.: 1.3525 f(s)/Unit Total: 1.3525 f(s)

Pick:

Qty Part number Description Batch

2 D2856-400(Cut to 7.73")

Abrasion Strip

34642

ml 07 11 20

27.0

D28921

Support



Comment: Qty.: 2.0000 Each(s)/Unit Total: 2.0000 Each(s)

Pick:

Qty Part number Description Batch

2 D2892-1

Support

28389

ml 07 11 20

28.0

MS2192022

Clamp(per MIL-DTL-8783C)



Comment: Qty.: 4.0000 Each(s)/Unit Total: 4.0000 Each(s)

Pick:

Qty Part number Description Batch

4 MS21920-22

Clamp

105199

ml 07 11 20

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

Date: Friday, 10/5/2007 11:01:47 AM  
User: Kim Johnston

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 206L AFT X-TUBE

Job Number: 35043

Part Number: D206667203

Job Number:



Seq. #:

Machine Or Operation:

Description:

29.0

LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Install abrasion strips as per QSI 035 using DT8580. Note: (3) top holes should be facing up.

2-Install supports and clamps as per Dwg D206-667-243. Torque clamps to 80-100 in lb

ml  
07/11/20 (1)

30.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

07-11-21 (1)

31.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Pick Packing Kit

32.0

AN534A

Bolt



Comment: Qty.: 4.0000 Each(s)/Unit Total: 4.0000 Each(s)

Bolt

Batch:

M105408

AS

07/11/22

(X1)

33.0

MS21042L5

Nut



Comment: Qty.: 4.0000 Each(s)/Unit Total: 4.0000 Each(s)

Nut

Batch:

M105430

AS

07/11/22

(X1)

34.0

AN510A

Bolt



Comment: Qty.: 10.0000 Each(s)/Unit Total: 10.0000 Each(s)

Pick:Packing Kit

Qty Part number

10 AN5-10A

Description Batch

Bolt

M104156

AS

07/11/22

(X1)

35.0

AN532A

Bolt



Comment: Qty.: 4.0000 Each(s)/Unit Total: 4.0000 Each(s)

Pick:Packing Kit

Qty Part number

Description Batch

M104936

AS

07/11/22

(X1)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes ☒ No ☐ DQA: AD Date: 01/11/23  
 QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Friday, 10/5/2007 11:01:47 AM  
User: Kim Johnston

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 206L AFT X-TUBE

Job Number: 35043

Part Number: D206667203

Job Number:



Seq. #:

Machine Or Operation:

Description:

4 AN5-32A

Bolt

M104936

KS

36.0

AN960JD516

Washer



Comment: Qty.: 18.0000 Each(s)/Unit Total: 18.0000 Each(s)

Pick: Packing Kit

Qty Part number

Description

Batch

18 AN960JD516

Washer

M104156

KS

07/11/22

(X1)

37.0

QC4

INSPECT 100% KITS FOR COMPLETENESS



Comment: INSPECT 100% KITS FOR COMPLETENESS

6 A/4 B3 (X1)

38.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and pack for shipping as per PPP D206-667-203

Location:

PPP Rev:

Q

7/11/23

sq

(1) A

39.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

D 07/11/23

Job Completion



u 07.11.23

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

<b>DART AEROSPACE LTD</b>	<b>Work Order:</b> 35043
<b>Description:</b> Crosstube Assembly	<b>Part Number:</b> D206-667-243
<b>Inspection Dwg:</b> D206-667-243 <b>Rev:</b> B	<b>Page 1 of 1</b>

### FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article
 ☐ Prototype

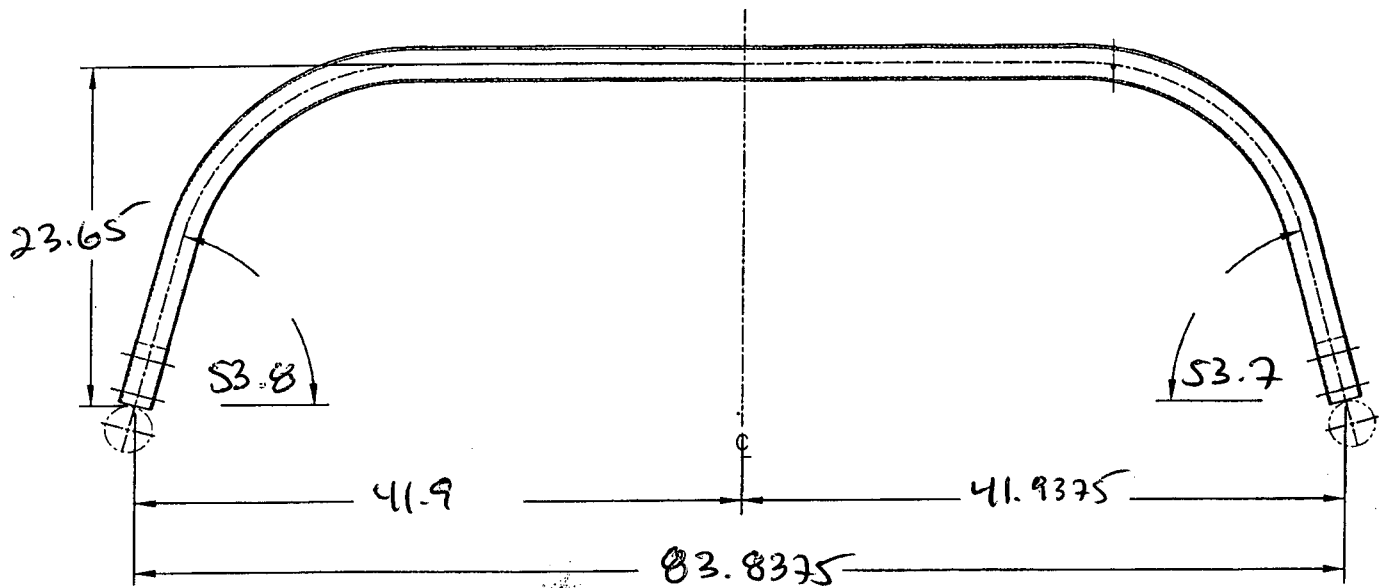
Inspection Sheet Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
SIDE A	2.490	+0.005/-0.000	2.493	—		
	2.018	+0.005/-0.000	2.023	—		
	2.079	+0.005/-0.000	2.084	—		
	2.145	+0.005/-0.000	2.150	—		
	2.209	+0.005/-0.000	2.214	—		
	2.287	+0.005/-0.000	2.291	—		
	2.363	+0.005/-0.000	2.366	—		
	2.433	+0.005/-0.000	2.437	—		
	0.200	+/-0.010	0.205	—		
	0.500 x 30°	+/-0.010	0.500x30°	—		
	R0.063	+/-0.010	R0.063	—		
	R0.500	+/-0.010	R0.500	—		
	4.438	+/-0.030	4.438	—		
SIDE B	104.91	+/-0.020	104.910	—		
	2.490	+0.005/-0.000	2.494	—		
	2.018	+0.005/-0.000	2.023	—		
	2.079	+0.005/-0.000	2.084	—		
	2.145	+0.005/-0.000	2.150	—		
	2.209	+0.005/-0.000	2.213	—		
	2.287	+0.005/-0.000	2.290	—		
	2.363	+0.005/-0.000	2.365	—		
	2.433	+0.005/-0.000	2.434	—		
	0.200	+/-0.010	0.200	—		
	0.500 x 30°	+/-0.010	0.500x30°	—		
	R0.063	+/-0.010	R0.063	—		
	R0.500	+/-0.010	R0.500	—		
	4.438	+/-0.030	4.438	—		

<b>Measured by:</b> <i>[Signature]</i>	<b>Audited by:</b> <i>J.F.</i>	<b>Prototype Approval:</b> N/A
<b>Date:</b> 07/10/21	<b>Date:</b> 07/10/21	<b>Date:</b> N/A


Rev	Date	Change	Revised by	Approved
A	06.09.01	New Issue (P/O D206-667-203)	KJ/JLM <i>[Signature]</i>	<i>[Signature]</i>



DART AEROSPACE LTD		Work Order:	35043
Description: Crosstube High Aft (206L)		Part Number:	D206-667-203
Inspection Dwg: D206-667-243 Rev: B		Page 1 of 1	

Required Dimension	Min	Max
Height	23.46	23.58
1/2 Span	41.86	41.98
Angle	54	56
Total Span	83.72	83.96



Comments

QC15 Inspection	 07-10-26
Date	

Rev	Date	Change	Revised by	Approved
A	07.02.06	New Issue	KJ/JM 	





DESIGN PH	DRAWN BY PH	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
CHECKED # DS	APPROVED # DS	DRAWING NO. D206-667-243	REV. B SHEET 1 OF 3
DATE 05.07.26		TITLE CROSSTUBE ASS'Y (206L HIGH AFT) NTS	
A	00.11.17	NEW ISSUE	
B	05.07.26	ADD HOLES AND NUT PLATES FOR COMPATABILITY WITH BHT/AA SKIDTUBES	

RELEASED  
05-07-26

**UNDER REVIEW**

06-08-10 RH

12 draw detail F

RH

07.06.02

Qty	Part Number	Description
X	D206-667-243	CROSSTUBE ASSEMBLY
1	D6004-115	CROSSTUBE
2	D2856-400-773	ABRASION STRIP
2	D2873-043	NUT PLATE
2	D2873-045	NUT PLATE
2	D2892-1	SUPPORT
14	MS20601AD4W10	RIVET (OR NAS9302B-4-10)
4	MS21920-22	CLAMP

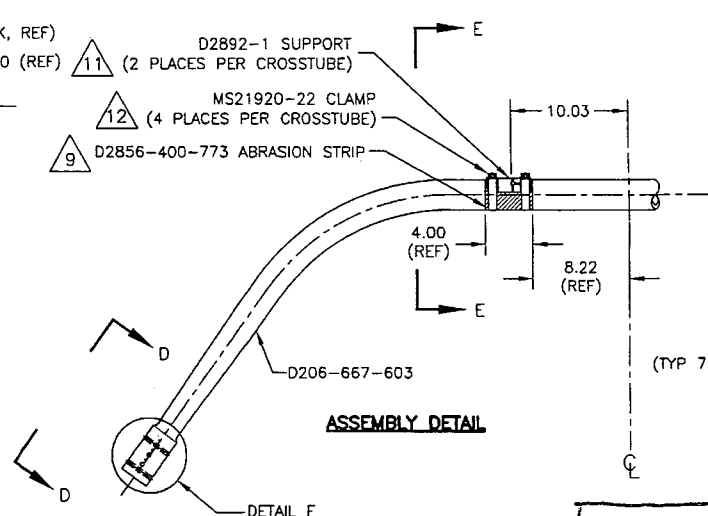
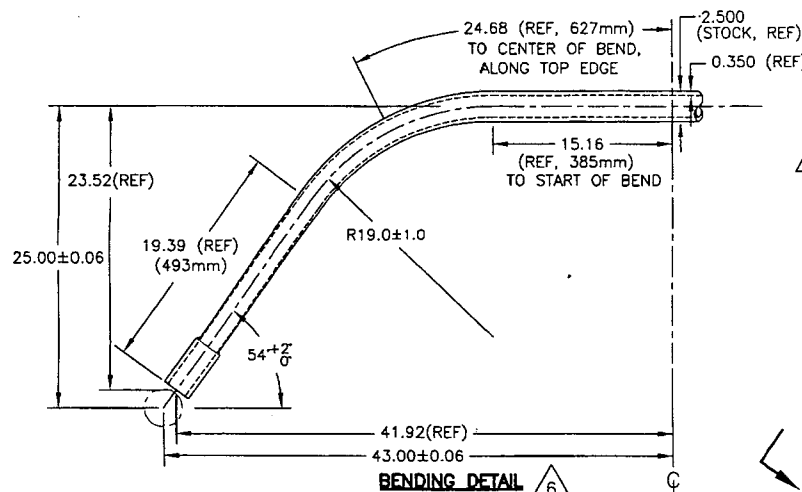
#### GENERAL NOTES:

- 1) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- 2) MATERIAL: MANUFACTURED FROM D6004-115  
FINISHED LENGTH = 104.91±0.020
- 3) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1  
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2  
PAINT OUTSIDE PER DART QSI 005 4.2
- 4) PART IS SYMMETRIC ABOUT CENTERLINE.
- 5) RUN-OFF PART. BLEND OUT EDGE LONGITUDINALLY, TRANSITION SHOULD BE SMOOTH.
- 6) BEND PROGRESSIVELY WITH A MINIMUM OF 8 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 6% BASED ON O.D.
- 7) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.
- 8) SCRIBE DART PART NUMBER AND BATCH NUMBER IN THIS AREA WITH VIBRATING STYLUS.
- 9) INSTALL D2856-400-773 ABRASION STRIP WITH A 0.13 (REF) GAP ON BOTTOM SIDE OF CROSSTUBE, CENTERED OPPOSITE D2892-1 SUPPORT, PER QSI 035.
- 10) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 11) IT IS OPTIONAL TO SEAL EDGES OF SUPPORTS AND ABRASION STRIP USING SIKAFLEX-241/291 SEALANT.
- 12) TORQUE CLAMPS 80 TO 100 IN-LB.

SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 35043

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△ B  $\phi 0.323^{+0.005}_{-0.000}$   
(TYP 5 PLACES PER CUFF)  
HOLE TO BE ALIGNED WITHIN  $\pm 0.001$   
OF HOLE ON OTHER SIDE OF CUFF

PILOT  $\phi 0.128$   
C'SINK  $\phi 0.225 \times 100'$   
(TYP 7 PLACES PER CUFF)

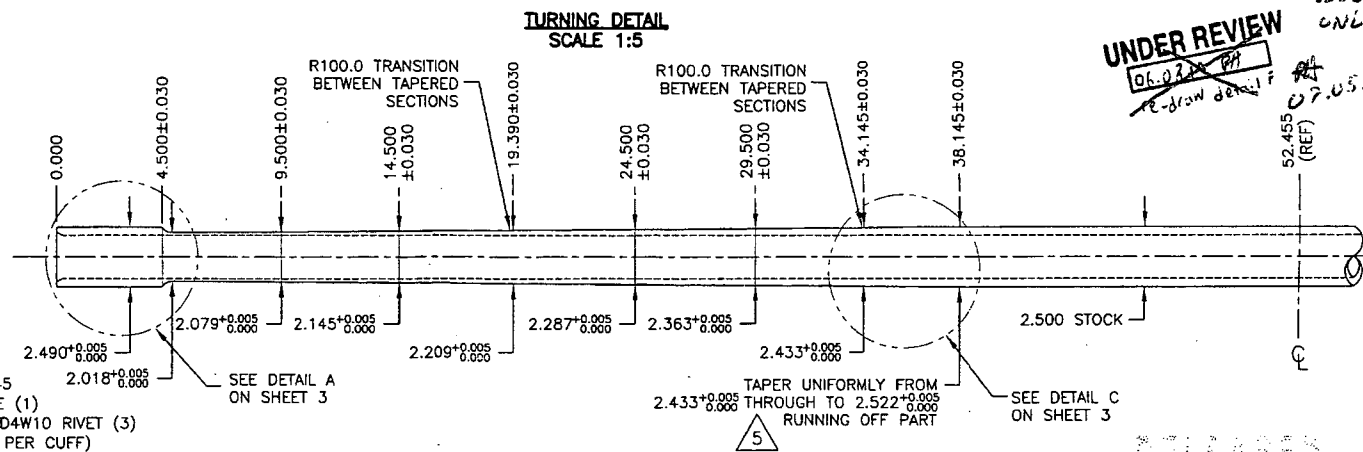
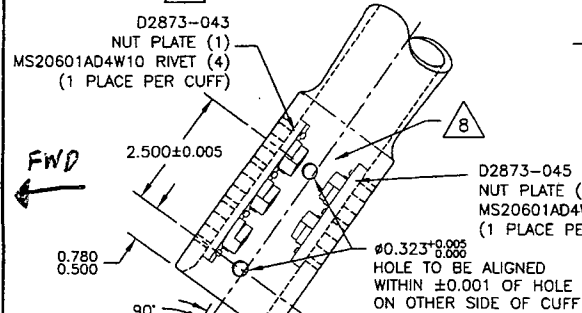
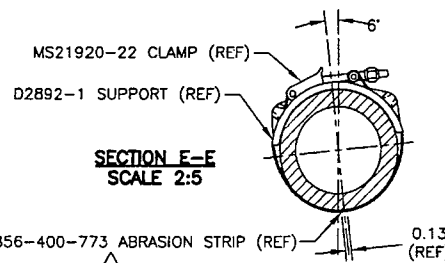
FWD SIDE ONLY

DETAIL F  
SCALE 2:5

UNDER REVIEW  
06.03.26 PH  
re-draw detail F

FWD SIDE ONLY

07.05.02

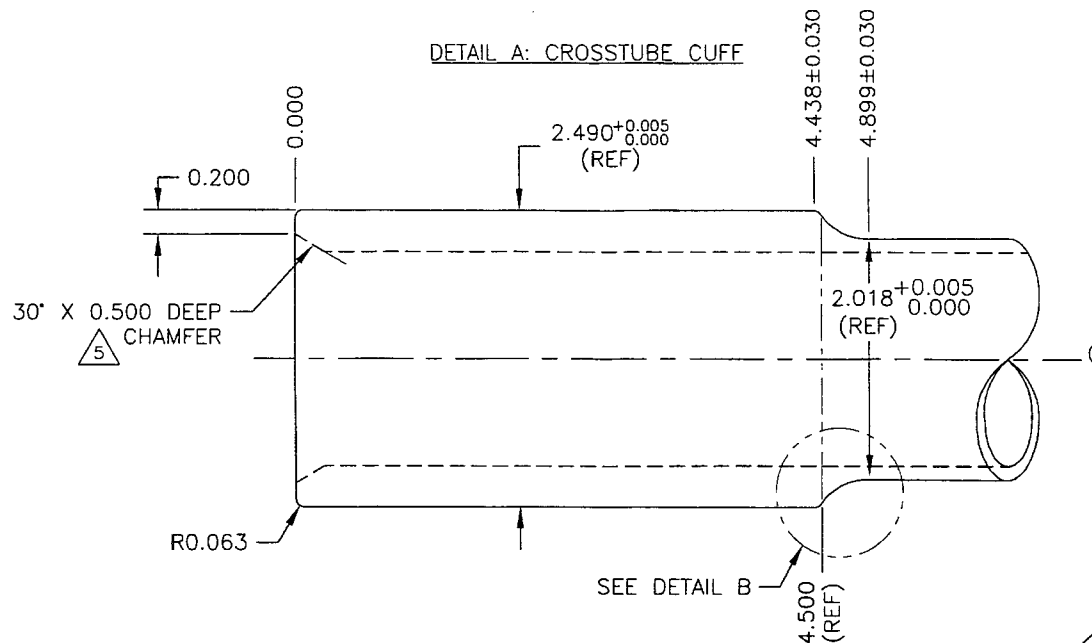


05.07.26

COPYRIGHT © 2000 BY DART AEROSPACE LTD.		DESIGN	DRAWN BY	<b>DART</b> DART AEROSPACE LTD. HAMMERSBURY, ONTARIO, CANADA	REV. B
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.		PH	PH		
CHECKED		PH	PH	DRAWING NO.	SHEET 2 OF 3
DATE		05.07.26		D206-667-243	
				TITLE	SCALE
				CROSSTUBE ASS'Y (206L HIGH AFT)	1:10

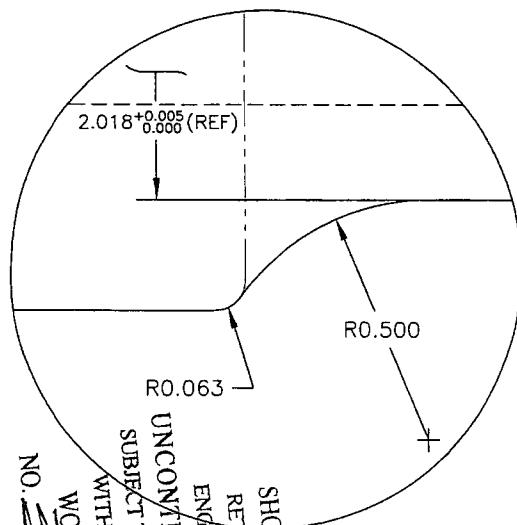
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
35043

# DETAIL A: CROSSTUBE\_CUFF

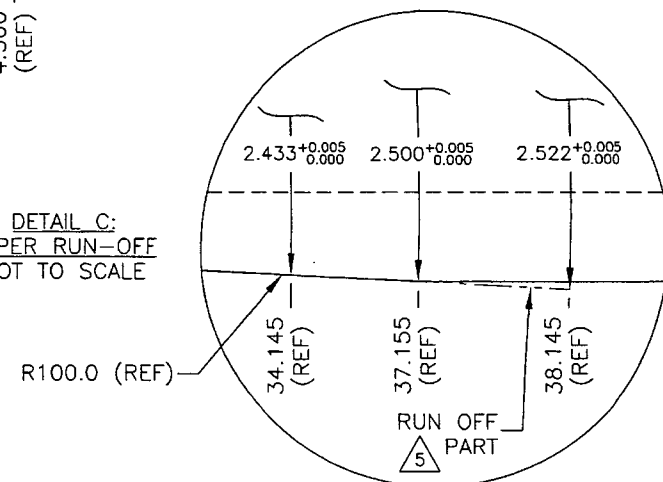


UNDER REVIEW  
06.02.06 PH  
Re-draw detail if  
PH 07.05.02

## DETAIL B: CUFF TRANSITION SCALE 4:1



## DETAIL C: TAPER RUN-OFF NOT TO SCALE



NO. 35043  
WORK ORDER  
WITHOUT NOTICE  
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THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART Aerospace LTD.		CHECKED #DS	APPROVED #DS	DRAWING NO. D206-667-243	REV. B SHEET 3 OF 3
DATE 05.07.26		TITLE CROSSTUBE ASS'Y (206L HIGH AFT)		SCALE 1:1	



## LIQUID PENETRANT TEST REPORT

P- 09855

CLIENT	Dart Aerospace	DATE	Nov 2-2007	PAGE	1	OF	1
ATTENTION	Linda Lucello	ACUREN JOB NO.	188-07-01131	TIME	AM	<input checked="" type="checkbox"/>	PM <input type="checkbox"/>
ADDRESS	1270 Aberdeen ST Hawkesbury ON	PO/VO NO.		WORK LOCATION	DART AEROSPACE HAWKESBURY		
PROJECT	Fluorescent L.P.I. on FWD & AFT X-TUBES						
ITEM(S) EXAMINED	206L AFT X-TUBE (X4) + 206L FWD X-TUBE (X3)						
JOB#	35041+35042+35043+35044 ~ JOB#4 34924+34925+34927						

JOB DESCRIPTION	PROCEDURE NO. LT-XXXX REV./DATE	TECHNIQUE NO. LT-XXXX-XXX REV./DATE
PART NO.	AFT-D2066672039 FWD-D206667103	MATERIAL
SCOPE	Liquid Penetrant Inspection - Fluorescent	

## TEST DETAILS

METHOD	<input checked="" type="checkbox"/> FLUORESCENT	<input type="checkbox"/> VISIBLE	<input checked="" type="checkbox"/> WATER WASH	<input type="checkbox"/> SOLVENT REMOVABLE	<input type="checkbox"/> POST EMULSIFIED
FAMILY BRAND	MagnaFlux		BLACK LIGHT S/N	8168	OUTPUT > 1000 $\mu$ W/cm <sup>2</sup>
PENETRANT	ZL-6P	MINIMUM DWELL TIME	10-45 MIN.	LIGHTING EQUIP.	<input type="checkbox"/> FLASHLIGHT <input type="checkbox"/> TROUBLELIGHT
PENETRANT REMOVER	H2O	MINIMUM DRY TIME	>10 MIN.	OTHER	Cal due date - Apr 17-2008
DEVELOPER		MINIMUM DWELL TIME	10 MIN.	LIGHT METER S/N	CAL DUE DATE
DEVELOPER TYPE	<input type="checkbox"/> NON AQUEOUS	<input type="checkbox"/> AQUEOUS	<input type="checkbox"/> DRY		

## TEST SURFACE

SURFACE CONDITION	<input type="checkbox"/> AS GROUND	<input type="checkbox"/> AS WELDED	<input type="checkbox"/> MACHINED	<input type="checkbox"/> SHOT BLASTED	<input type="checkbox"/> CLEAN BARE METAL
SURFACE TEMPERATURE	<input type="checkbox"/> < -4°C/20°F	<input type="checkbox"/> -4°C/20°F TO 10°C/50°F	<input type="checkbox"/> 10°C/50°F TO 52°C/125°F	<input type="checkbox"/> > 52°C/125°F	

RESULTS- (☐ METRIC ☐ IMPERIAL)

ITEM	COMMENTS	ACCEPT	REJECT
Inspection was completed on 100% of external surfaces. Several linear indications were re-worked & removed. No further indications were found after re-inspection.			
JOB# 35043 AFT X-TUBE had a linear indication. This part failed after re-work & re-inspection & will be re-worked & inspected @ a later date.			

Scope of Services  
The agreement of Acuren Group Inc. to perform services extends only to those services provided for in writing. Under no circumstances shall such services extend beyond the performance of the requested services. It is expressly understood that all descriptions, comments and expressions of opinion reflect the opinions or observations of Acuren Group Inc. based on information and assumptions supplied by the owner/operator and are not intended nor can they be construed as representations or warranties. Acuren Group Inc. is not assuming any responsibilities of the owner/operator and the owner/operator retains complete responsibility for the engineering, manufacture, repair and use decisions as a result of the data or other information provided by Acuren Group Inc. In no event shall Acuren Group Inc.'s liability in respect of the services referred to herein exceed the amount paid for such services.

Standard of Care  
In performing the services provided, Acuren Group Inc. uses the degree, care and skill ordinarily exercised under similar circumstances by others performing such services in the same or similar locality. No other warranty, expressed or implied, is made or intended by Acuren Group Inc.

## SIGNATURES

CLIENT REPRESENTATIVE	PRINT	SIGNATURE	DTR # 27471	
TECHNICIAN (SIGNATURE):	PRINT	SIGNATURE	REPORT REVIEWED BY:	
NAME (PRINT):	1 <sup>ST</sup> TECHNICIAN	2 <sup>ND</sup> TECHNICIAN	NAME	INITIALS
CGSB LEVEL	II	SNT LEVEL	II	
CGSB REG. NO.	3387	CGSB REG. NO.		





## LIQUID PENETRANT TEST REPORT

P - 1200 1

CLIENT	DART AEROSPACE	DATE	NOV 16 2007	PAGE	1	OF	2
ATTENTION	LINDA LACELLE	ACUREN JOB NO.	188 07 1200	TIME	AM <input type="checkbox"/>	PM <input type="checkbox"/>	
ADDRESS	1270 ABERDEEN ST	POWOW NO.	5068				
	HAWKESBURY, ONT.	WORK LOCATION	HAWKESBURY				
		ACCEPTANCE STD.	ASTM 1417/QSI-038	REV./DATE	2005		
PROJECT	OH 58 FWD/AFT, 206LFWD/AFT, 407 HIGH AFT X TUBES						
ITEM(S) EXAMINED	JOB #S OH 58: 33146,33147,33148,33152,35532,35533,35534,35535. JOB#S 407: 33327						
	JOB #S 206L: 35043,35305,35306.						

JOB DESCRIPTION	PROCEDURE NO. LT-0002	REV./DATE	TECHNIQUE NO. LT-TECH2	REV./DATE
'PART NO. D206667203/D206667103BL/D05876101,201/D407667205 MATERIAL ALODINED ALUM. THICKNESS				
SCOPE WET FLOURESCENT LIQUID PENETRANT INSPECTION CARRIED OUT ON 100% EXTERNAL SURFACE				

## TEST DETAILS

METHOD	<input checked="" type="checkbox"/> FLUORESCENT	<input type="checkbox"/> VISIBLE	<input checked="" type="checkbox"/> WATER WASH	<input type="checkbox"/> SOLVENT REMOVABLE	<input type="checkbox"/> POST EMULSIFIED
FAMILY BRAND	MAGNAFLUX		BLACK LGHT8171	<input type="checkbox"/> OUTPUT > 1000 $\mu$ W/cm <sup>2</sup>	<input type="checkbox"/> AMBIENT < 2 fc
PENETRANT ZL67	MINIMUM DWELL TIME	45 MIN.	LIGHTING EQUIP.	<input type="checkbox"/> FLASHLIGHT <input type="checkbox"/> TROUBLELIGHT	<input type="checkbox"/> OUTPUT > 100 fc @ SURFACE
PENETRANT REMOVER H2O	MINIMUM DRY TIME	> 10 MIN.	OTHER	CAL SEP 18 07	
DEVELOPER SKDS2	MINIMUM DWELL TIME	10 MIN.	LIGHT METER S/N	CAL DUE DATE	
DEVELOPER TYPE	<input checked="" type="checkbox"/> NON AQUEOUS	<input type="checkbox"/> AQUEOUS	<input type="checkbox"/> DRY		

## TEST SURFACE

SURFACE CONDITION	<input type="checkbox"/> AS GROUND	<input checked="" type="checkbox"/> AS WELDED	<input type="checkbox"/> MACHINED	<input type="checkbox"/> SHOT BLASTED	<input checked="" type="checkbox"/> CLEAN BARE METAL
SURFACE TEMPERATURE	<input type="checkbox"/> < - 4°C/ 20°F	<input type="checkbox"/> - 4°C/ 20°F TO 10°C/50°F	<input type="checkbox"/> 10°C/50°F TO 52°C/125°F	<input type="checkbox"/> > 52°C/125°F	

RESULTS- (☐ METRIC ☒ IMPERIAL)

FLUORESCENT LIQUID PENETRANT INSPECTION  
CARRIED OUT ON 100% EXTERNAL SURFACE ON:

206L FWD X TUBES JOB#S 35305  
206L AFT X TUBES JOB#S: 35043, 35306  
OH58 FWD X TUBES JOB#S: 33146, 33147, 33148, 35532  
OH58 AFT X TUBES JOB#S: 33152, 35533, 35534, 35535  
407 HIGH AFT TUBE JOB#: 33327

RESULTS: NO INDICATION OF DEFECTS.

ITEMS ACCEPTABLE TO STANDARD.

## Scope of Services

The agreement of Acuren Group Inc. to perform services extends only to those services provided for in writing. Under no circumstances shall such services extend beyond the performance of the requested services. It is expressly understood that all descriptions, comments and expressions of opinion reflect the opinions or observations of Acuren Group Inc. based on information and assumptions supplied by the owner operator and are not intended nor can they be construed as representations or warranties. Acuren Group Inc. is not assuming any responsibilities of the owner operator and the owner operator retains complete responsibility for the engineering, manufacture, repair and use decisions as a result of the data or other information provided by Acuren Group Inc. In no event shall Acuren Group Inc.'s liability in respect of the services referred to herein exceed the amount paid for such services.

## Standard of Care

In performing the services provided, Acuren Group Inc. uses the degree, care and skill ordinarily exercised under similar circumstances by others performing such services in the same or similar locality. No other warranty, expressed or implied, is made or intended by Acuren Group Inc.

## SIGNATURES

CLIENT REPRESENTATIVE		DTR # E 27347	
TECHNICIAN (SIGNATURE):		REPORT REVIEWED BY:	
NAME (PRINT):	JASON HEWETT	NAME INITIALS	
	1 <sup>ST</sup> TECHNICIAN		
CGSB LEVEL	2	CGSB LEVEL	SNT LEVEL
CGSB REG. NO	6156	CGSB REG. NO	

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PINK - TECHNICIAN COPY

GOLD - OFFICE COPY